

REMARKS/ARGUMENTS

Claims 1-38 are pending in this application and stand rejected.

Claims 1-4, 6-16, 18-28 and 30-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent 6,687,225 to Kawarai et al. (hereinafter "Kawarai") in view of United States Patent 6,404,737 to Novick et al. (hereinafter "Novick").

Claims 5, 17 and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawarai in view of Novick and further in view of United States Patent 5,966,163 to Lin et al. (hereinafter "Lin").

Claims 1, 13, 25, and 37 are amended. Claim 38 is canceled. New claim 39 is added. Support for the new and amended claims can be found throughout the application and, among other places, at ¶¶45-56. No new matter has been added.

An interview was conducted with Examiner Shick Hom on May 23, 2007. During the interview, a proposed claim amendment was discussed and the cited references were also discussed. Examiner Hom indicated that, pending further review, the features set forth in the proposed amendment appeared to overcome the references. Accordingly, Applicants have amended claims 1, 13, and 25 to include the proposed features. Applicants thank the Examiner for his thoughtful suggestions.

Claim 1

Claim 1 recites a method of inserting empty memory cells into the data flow comprising "receiving during a predetermined period of time insertion requests for empty memory cells to be inserted into the data flow from a plurality of requesting sources, each of the requesting sources having a corresponding priority such that the insertion request from the highest priority source will be carried out." Applicants respectfully submit that the cited references, alone or in combination, do not teach at least these features.

Kawarai discusses a bandwidth control apparatus that inserts empty cells onto a cell highway. One part of the apparatus generates a cell to be inserted and then communicates an

insertion request to another part of the apparatus which inserts an empty cell onto the cell highway. The empty cell is later replaced by the cell to be inserted. For example, as illustrated in Fig. 1, an insertion request is generated by cell insertion block (1-10) and communicated to shaping block (1-20) to cause an empty cell to be inserted onto cell highway (1-30). The cell to be inserted is enqueued in cell insertion queue (1-12) and overwrites the empty cell in subsequent processing.

The timing of Kawarai's insertion requests is controlled in one or two ways. First, an insertion request may be generated as soon as a cell is enqueued in the cell insertion queue ("FIFO" approach). See, Kawarai at col. 7, line 66 - col. 8, line 5. Alternatively, an insertion request may be generated when the cell insertion queue is filled to a predetermined level ("queue-length" approach). See, Kawarai at col. 8, lines 10-16.

Unlike the present invention, Kawarai does not disclose that insertion requests are received from a plurality of requesting sources. Instead, Kawarai teaches that insertion requests are received from a single source (e.g., 1-13, 16-3, 19-3) in response to insertion cells generated by a single source (e.g., 1-11, 16-1, 19-1). Thus, Kawarai does not disclose "receiving during a predetermined period of time insertion requests for empty memory cells to be inserted into the data flow *from a plurality of requesting sources*" as this limitation is fully recited above.

In addition, Kawarai does not disclose that an insertion request is carried out based upon a *priority* of the requesting source. First, as noted above, Kawarai does not contemplate a plurality of requesting sources and therefore does not disclose how competing insertion requests from different sources might be handled. Second, neither of Kawarai's approaches to timing insertion requests support priority-based selection. For example, the FIFO approach simply sends the insertion request as soon as a cell is enqueued. It does not support high-priority insertion requests and low-priority insertion requests, whether received from the same or different requesting sources. Similarly, the queue-length approach is not based upon priority because, even when multiple QoS classes are involved, the resulting insertion request depends upon the relative full-ness of each queue and not upon the QoS classes of requests received during a predetermined period of time. In other words, Kawarai teaches that an

insertion request is generated when a queue reaches its predetermined threshold regardless of whether there may be requests for inserting cells with higher QoS attributes stored in other queues that have not reached their respective thresholds.

Accordingly, Applicants submit that Kawarai does not disclose "receiving during a predetermined period of time insertion requests for empty memory cells to be inserted into the data flow from a plurality of requesting sources, each of the requesting sources having a corresponding priority such that the insertion request from the highest priority source will be carried out." Moreover, it is respectfully submitted that Kawarai cannot be modified to produce these limitations because, as discussed above, the timing of Kawarai's empty cell insertion requests does not support priority based insertion requests.

Novick does not cure Kawarai's deficiencies. Novick discloses a two-stage queuing arrangement for processing shaped and unshaped cell traffic in a single virtual path. Novick does not disclose empty cell insertion requests and, more specifically, does not disclose at least the recited features. Therefore, Applicants respectfully submit that claim 1 is patentable over the combination of references. Reconsideration and allowance is respectfully requested.

Claims 13, 25

Claims 13 and 25 each recite features similar to those discussed in connection with claim 1 and each was rejected under a similar rationale. Therefore, claims 13 and 25 are also believed allowable over Kawarai in view of Novick as previously discussed.

Claims 2-12, 14-24, 26-36

Claims 2-12, 14-24, 26-36 depend from claims 1, 13, and 25 respectively. The dependent claims are believed allowable for at least the reason that they depend from allowable base claims, in addition to the unique limitations that they recite. In particular, with respect to claim 10, Applicants submit that Kawarai and Novick do not teach or suggest the further limitation "wherein the step of determining the appropriate insertion scheme comprises performing a lookup in a scan table." The Office Action indicates that Kawarai's shaping buffer management table and/or Kawarai's line management table supply this feature. See, Office

Action at page 11 (citing Kawarai at col. 16, lines 1-8). However, Kawarai's buffer and line management tables provide information about *user cells* arriving on the cell highway. The management tables are not used to generate empty cell insertion requests. Applicants respectfully submit that neither reference discloses a lookup or retrieval operation to gather information about empty cell insertion requests and that claim 10 is also allowable for at least these additional reasons.

Claim 37

Claim 37 is amended to recite "logic configured to retrieve information for processing the insertion request from a data source; logic configured to determine an appropriate insertion scheme for carrying out the insertion request in accordance with the information retrieved." As discussed above, the combination of references fails to disclose at least limitations whereby information about an insertion request is retrieved from a data source before it is sent out to an insertion device. Reconsideration and allowance of claim 37 is respectfully requested.

Claim 39

New claim 39 recites a novel combination of features and is also believed allowable over the cited references. These features include "receiving candidate insertion requests for empty memory cells to be inserted into the data flow from a plurality of requesting sources, each requesting source having a corresponding priority; identifying an insertion request to be carried out from among the candidate insertion requests based upon the priority of its requesting source; retrieving information for processing the insertion request from a data source using an identifier included with the insertion request; determining an appropriate insertion scheme for carrying out the insertion request based upon its requesting source and the information from the data source."

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-350-6100.

Respectfully submitted,



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